

## Quiz #4

Name:

Do either problem; tell me which one to grade. Extra credit if you do both (but tell me which one to grade as the regular answer and which is extra, and I only grade the extra if the regular is correct).

1. Function `ContainsDuplicates` takes a single `apstring` as a parameter and returns `true` if there is any character that appears more than once in the string. It returns `false` if there are no such characters. For instance:

```
ContainsDuplicates( "test" )    returns true
ContainsDuplicates( "book" )    returns true
ContainsDuplicates( "zazz" )    returns true
ContainsDuplicates( "toad" )    returns false
```

Implement `ContainsDuplicates`.

2. Function `CountChars` takes two parameters: the *source* string and the *target* string, and returns the total number of times that any character in the target string appears in the source string. It is assumed that the target string is duplicate free. If it is not, return -1. Here are some examples:

```
CountChars( "test", "t" )      returns 2
CountChars( "thesis", "sh" )   returns 3 (2 s's and 1 h)
CountChars( "thesis", "shs" )  returns -1
```

Implement the function `CountChars`. In implementing `CountChars` you may call `ContainsDuplicates`, defined in Question 1, and you may assume that `ContainsDuplicates` works as specified, regardless of what you wrote in your answer to Question 1.